

```

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp
      165                      170                      175
Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln
      180                      185                      190
Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu
      195                      200                      205
Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly
      210                      215                      220
Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr
      225                      230                      235
Asp Ile Gln Val Leu Thr Leu Gly Gln Val Pro Glu Ile Glu Asp Met
      245                      250                      255
Glu Ile Ser Leu Pro Asn Ile His Tyr Leu Asn Ile Asp Met Ser Lys
      260                      265                      270
Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro
      275                      280                      285
Tyr Gly Arg Ile Thr Gly Thr Val Lys Arg Lys Leu Thr Ser Arg Leu
      290                      295                      300

```

<210> 8

<211> 298

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PBC amino truncated

<400> 8

```

Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe Val Arg Thr Gly Tyr Gly
  1              5              10              15

```

```

Lys Asp Met Ile Lys Val Leu His Ile Gln Arg Asp Gly Lys Tyr His
      20              25              30

```

```

Ser Ile Lys Glu Val Ala Thr Ser Val Gln Leu Thr Leu Ser Ser Lys
      35              40              45

```

```

Lys Asp Tyr Leu His Gly Asp Asn Ser Asp Val Ile Pro Thr Asp Thr
      50              55              60

```

```

Ile Lys Asn Thr Val Asn Val Leu Ala Lys Phe Lys Gly Ile Lys Ser
      65              70              75              80

```

```

Ile Glu Thr Phe Ala Val Thr Ile Cys Glu His Phe Leu Ser Ser Phe
      85              90              95

```

```

Lys His Val Ile Arg Ala Gln Val Tyr Val Glu Glu Val Pro Trp Lys
      100             105             110

```

```

Arg Phe Glu Lys Asn Gly Val Lys His Val His Ala Phe Ile Tyr Thr

```

115	120	125
Pro Thr Gly Thr His Phe Cys Glu Val Glu Gln Ile Arg Asn Gly Pro 130 135 140		
Pro Val Ile His Ser Gly Ile Lys Asp Leu Lys Val Leu Lys Thr Thr 145 150 155 160		
Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp Gln Phe Thr Thr Leu Pro 165 170 175		
Glu Val Lys Asp Arg Cys Phe Ala Thr Gln Val Tyr Cys Lys Trp Arg 180 185 190		
Tyr His Gln Gly Arg Asp Val Asp Phe Glu Ala Thr Trp Asp Thr Val 195 200 205		
Arg Ser Ile Val Leu Gln Lys Phe Ala Gly Pro Tyr Asp Lys Gly Glu 210 215 220		
Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr Asp Ile Gln Val Leu Ser 225 230 235 240		
Leu Ser Arg Val Pro Glu Ile Glu Asp Met Glu Ile Ser Leu Pro Asn 245 250 255		
Ile His Tyr Phe Asn Ile Asp Met Ser Lys Met Gly Leu Ile Asn Lys 260 265 270		
Glu Glu Val Leu Leu Pro Leu Asp Asn Pro Tyr Gly Lys Ile Thr Gly 275 280 285		
Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295		

<210> 9

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PBC carboxy truncated

<400> 9

Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe 1 5 10 15
Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln 20 25 30
Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln 35 40 45
Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60
Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys 65 70 75 80
Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu

				85				90				95			
His	Phe	Leu	Ser 100	Ser	Phe	Lys	His	Val 105	Ile	Arg	Ala	Gln	Val 110	Tyr	Val
Glu	Glu	Val 115	Pro	Trp	Lys	Arg	Phe 120	Glu	Lys	Asn	Gly	Val 125	Lys	His	Val
His	Ala 130	Phe	Ile	Tyr	Thr	Pro 135	Thr	Gly	Thr	His	Phe 140	Cys	Glu	Val	Glu
Gln 145	Ile	Arg	Asn	Gly	Pro 150	Pro	Val	Ile	His	Ser 155	Gly	Ile	Lys	Asp	Leu 160
Lys	Val	Leu	Lys 165	Thr	Thr	Gln	Ser	Gly 170	Phe	Glu	Gly	Phe	Ile	Lys	Asp 175
Gln	Phe	Thr	Thr 180	Leu	Pro	Glu	Val	Lys 185	Asp	Arg	Cys	Phe	Ala	Thr	Gln
Val	Tyr	Cys 195	Lys	Trp	Arg	Tyr	His 200	Gln	Gly	Arg	Asp 205	Val	Asp	Phe	Glu
Ala	Thr 210	Trp	Asp	Thr	Val	Arg 215	Ser	Ile	Val	Leu	Gln 220	Lys	Phe	Ala	Gly
Pro 225	Tyr	Asp	Lys	Gly	Glu 230	Tyr	Ser	Pro	Ser 235	Val	Gln	Lys	Thr	Leu	Tyr 240
Asp	Ile	Gln	Val	Leu 245	Ser	Leu	Ser	Arg	Val 250	Pro	Glu	Ile	Glu	Asp 255	Met
Glu	Ile	Ser	Leu 260	Pro	Asn	Ile	His	Tyr 265	Phe	Asn	Ile	Asp 270	Met	Ser	Lys
Met	Gly	Leu 275	Ile	Asn	Lys	Glu	Glu 280	Val	Leu	Leu	Pro	Leu 285	Asp	Asn	Pro
Tyr	Gly 290	Lys	Ile	Thr	Gly	Thr 295	Val	Lys	Arg	Lys	Leu 300	Ser			

<210> 10

<211> 298

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PKS carboxy truncated

<400> 10

Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe Val Arg Thr Gly Tyr Gly
1 5 10 15

Lys Asp Met Ile Lys Val Leu His Ile Gln Arg Asp Gly Lys Tyr His
20 25 30

Ser Ile Lys Glu Val Ala Thr Ser Val Gln Leu Thr Leu Ser Ser Lys
35 40 45

Lys Asp Tyr Leu His Gly Asp Asn Ser Asp Val Ile Pro Thr Asp Thr